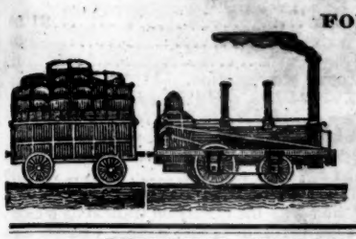
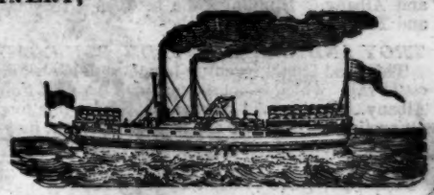
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. II., No. 46.] SATURDAY, NOVEMBER 14, 1846. [WHOLE No. 543, VOL. XIX.

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, April 6, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 4 p.m., and Providence at 8 a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m. 12½ m., 3½ p.m., and 6½ p.m. Leave Dedham at 7 a.m. and 9½ a.m. and 2½ and 5½ p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7·20 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES CONnecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement, commencing Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1½ p.m. train from Boston.

New York Train via Long Island Railroad: Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4½ p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, Boston to Portland via, Reading, Andover, Haverhill, Exeter, Dover, Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Winter Arrangement, 1846-7.

On and after October 5th, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7½ a.m. and 2½ p.m.

Boston for Great Falls at 7½ a.m., 2½ and 3·25 p.m.

Boston for Haverhill at 7½ and 11½ a.m., 2½, 3·25 and 5 p.m.

Boston for Reading at 7½, and 11½ a.m., 2½, 3·25 5 and 6½ p.m.

Portland for Boston at 7½ a.m., and 3 p.m.

Great Falls for Boston at 6½ and 9½ a.m., and 4½ p.m.

Haverhill for Boston at 7½, 8½, and 11 a.m., and 3 and 6½ p.m.

Reading for Boston at 7, 8½ and 9½ a.m., 12 m., 1½, 4 and 7½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that *personal* Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value.

1y31 CHAS. MINOT, *Super't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.

On and after Friday, May 1st, 1846, the cars will run as follows:

Leave City Hall for Yorkville, Harlem and Morrianna, at 7, 8, 9, 10 and 11 a. m., and at 1, 2, 3 30, 4 30, 5, 6, and 6 30 p. m.

Leave City Hall for Fordham and Williams' Bridge, at 7, 10 and 11 a. m., and at 2, 3 30, 5, and 6 30 p. m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners and White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

Leave Harlem and Yorkville, at 7 10, 8 10, 9, 10 11 10 a. m., and at 12 40, 2, 3 10, 5 10, 5 30, 6 10' and 7 p. m.

Leave Williams' Bridge and Fordham, at 6 45, 7 45, and 10 45 a. m., and at 12 15, 2 45, 4 45, and 5 45 p. m.

Leave White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

The freight train will leave the City Hall at 1 o'clock, p. m., and leave White Plains at 1 o'clock in the morning.

On Sundays, the White Plains train will leave the ty Hall at 7 a. m. and 5 30 p. m.; will leave Cihite Plains at 7 a. m. and 6 p. m.

On Sundays, the Harlem and Williams Bridge trains wil be regulated according to the state of the weather. 1y18

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—

Leave New York at 7 A. M. and 4 P. M.
" Middletown at 6½ A. M. and 5½ P. M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—

Leave New York at 5 P. M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't.

March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

BOSTON AND ALBANY.—WESTERN RAILROAD.—Fare Reduced.

1846..Spring Arrangement..1846

Commencing April 1st.

Passenger trains leave daily, Sundays excepted—

Boston	7½ p. m. and	4 p. m.	for Albany.
Albany	6½ " and	2½ "	for Boston.
Springfield	7 " and	1 "	for Albany.
Springfield	7 " and	1½ "	for Boston.

Boston, Albany and Troy:

Leave Boston at 7½ a. m., arrive at Springfield at 12 m., dine, leave at 1 p. m., and reach Albany at 6½ p. m.

Leave Boston at 4 p. m., arrive at Springfield at 8 p. m., lodge, leave next morning at 7, and arrive at Albany at 12½ m.

Leave Albany at 6½ a. m., arrive at Springfield at ½ m., dine, leave at 1½ p. m., and arrive at Boston 6½ p. m.

Leave Albany at 2½ p. m., arrive at Springfield at 8½ p. m., lodge, leave next morning at 7, and arrive at Boston at 12 m.

The trains of the Troy and Greenbush railroad connect with all the above trains at Greenbush.

Fare from Boston to Albany, $5; fare from Springfield to Boston or Albany, $2 75.

Merchandize trains run daily (Sundays excepted) between Boston, Albany, Troy, Hudson, Northampton, Hartford, etc.

For further information apply to C. A. Read, agent, 27 State street, Boston, or to S. Witt, agent, Albany.

JAMES BARNES, Superintent and Engineer.

Western Railroad Office, Springfield, April 1, 1846.

TROY RAILROADS.—IMPORTANT NOTICE.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs. This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from *Boston* and intermediate places, leaving Greenbush daily at 1¼ p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7¼ a. m. and 4¼ p.m., or to connect with trains to *Boston*

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail- which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7¼ a.m. and 1 p.m. and 6¼ p.m., or to connect with the trains for the west; leave Schenectady at 2¼ a.m., 8¼ a.m., 1 p.m. and 3¼ p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7¼ a.m., (arriving one hour in advance of the train from Albany,) and at 3¼ p.m. Returning, leave Saratoga at 9 a.m. and 3¼ p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3¼ p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

THE BEST RAILROAD ROUTE TO THE Lake and Buffalo, from Cincinnati.

Take Cars to Xenia, 65 miles; take Stage to Mansfield, 88 miles; thence by Cars to Sandusky, 56 miles to the Lake; thence Steamboat to Buffalo, 230 miles.

Fare from Cincinnati to Sandusky	$8 00
" " Sandusky to Buffalo, Cabin	6 00
" " " " " Steerage	4 50

Fare by this route, although the cheapest across the state, will be reduced in a short time, railroad lengthened, and speed increased.

Leave Cincinnati in the morning, arrive at Columbus at night.

Leave Columbus in the morning, arrive at Sandusky same day.

Leave Sandusky, by Boat, in the morning, arrive at Buffalo next morning in time for the Cars north and east for Niagara Falls, Canada, Saratoga Springs, Troy, Albany, Boston, New York, Washington, or Philadelphia.

Passengers should not omit to pay their fare through from Cincinnati to Sandusky, or from Columbus to Sandusky via Mansfield; as this route is the only one that secures 56 miles [this road is run over in 2h. 50m.,] most railroad which is new, and is the shortest, cheapest and most expeditious across the state.

Fares on the New York railroads are about to be reduced.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Saudusky, Ohio.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
Corner of Cedar and Greenwich Sts, 48 1y

NEW RAILROAD ROUTE FROM BUFFALO to Cincinnati.

Passengers destined for Columbus and Cincinnati, O., Louisville, Ky., St. Louis, Mo., Memphis, Tenn., Vicksburg, Natches, New Orleans, and all intermediate ports, will find a new, and the most expeditious and comfortable Route, by taking Steamboats at Buffalo, landing at Sandusky City, Ohio, distance ..... 230 miles.

From thence by Cars, over the Mansfield Railroad which is new and just opened [laid with heavy Iron,] to Mansfield, distance	56 "
Thence by Stage via Columbus to Xenia over gravel and Macadamized Road, (the best in the state,) in new coaches, distance	88 "
Thence, over the Little Miami Railroad, from Xenia to Cincinnati, distance	65 "

TIME.

From Buffalo to Sandusky	24 hours.
Leave Sandusky 5 a.m. to Columbus	14 "
From Columbus to Cincinnati	15 "

Or say 30 hours from Sandusky to Cincinnati over this route, including delays.

FARE.

From Buffalo to Sandusky, Cabin	$6 00
" " " " Steerage	3 00
" Sandusky to Columbus	4 50
" " *through* to Cincinnati	8 00

Passengers should not omit to pay their fare *through* from Sandusky City to Cincinnati and take receipts availing themselves of the benefit of a contract existing between the said Railroad and Stage Co's, securing 121 miles travel by good Railroad and 88 miles by Stage, in crossing from Lake Erie to the Ohio river, in the space of 30 hours.

Passengers destined for St. Louis, or any point below on the Mississippi, will save by taking this route, from 4 to 6 days time and travel, and nearly half the expense, over the Chicago and Peoria route to the above places.

Fare by this route, although the cheapest, will in a short time be reduced, Railroad lengthened, and speed increased.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky City, Ohio.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7¼ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pitsburgh. Time of arrival at both Cumberland and Baltimore 5¼ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5¼ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER, 17 Burling Slip.
1y10 New York.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and 3¼ p.m.
Arrives at	9 a.m. and 6¼ p.m.
Leaves York at	5 a.m. and 3 p.m.
Arrives at	12¼ p.m. and 8 p.m.
Leaves York for Columbia at	1¼ p.m. and 8 a.m.
Leaves Columbia for York at	8 a.m. and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3¼ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5¼ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above.

351y

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

1y25 JOHN KING, Jr, *Agent.*

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	To Atlanta. $0 50	To Oothcaloga. $0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

LITTLE MIAMI RAILROAD.—1846.— Summer Arrangement.

Two passenger trains daily.

On and after Tuesday, May 5th, until further notice, two passenger trains will be run—leaving Cincinnati daily (Sundays excepted) at 9 a. m. and 1½ p. m. Returning, will leave Xenia at 5 o'clock 50 min. a. m., and 2 o'clock 40 min. p.m.

On Sundays, but one train will be run—leaving Cincinnati at 9, and Xenia at 5 50 min. a. m.

Both trains connect with Neil, Moore & Co.'s daily line of stages to Columbus, Zanesville, Wheeling, Cleveland, Sandusky City and Springfield.

Tickets may be procured at the depot on East Front street.

The company will not be responsible for baggage beyond fifty dollars in value, unless the same is returned to the conductor or agent, and freight paid at the rate of a passage for every $500 in value above that amount.

W. H. CLEMENT,
19 Superintendent.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
ly14 STOCTON & FALLS, Agents.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.		Between Augusta and Oothcaloga. 250 miles.	Between Charleston and Oothcaloga. 386 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 16	$0 25
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	0 90	1 40
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Bar and Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 55	0 75
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Feathers, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 37½	0 62½
	Cotton, per 100 lbs	0 45	0 65
	Molasses, per hogshead	8 50	13 50
	" " barrel	2 00	3 25
	Salt per bushel	0 17	
	Salt per Liverpool sack		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. *44 1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

TO RAILROAD COMPANIES AND MANUfacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

ATLANTIC AND ST. LAWRENCE RAIL Road. Notice to Contractors. Proposals wil be received at the office of the Atlantic and St Lawrence Railroad Company, in this city, from the 19th to the 24th October instant, inclusive, for the Grading, Masonry and Bridging of the second division of the road, extending from the termination of the first division, near the west bank of Royall's River, in North Yarmouth, to the Old Danville road, so called, a distance of about sixteen miles.

Also for the erection and completion of a pile bridge across the outlet of Back Cove, at Portland.

Plans, Profiles and Specifications will be exhibited, and the requisite information given at the engineer's office, in Portland, on and after the 20th of this month.

Persons offering to contract for the work, or any part thereof, who are unknown to the undersigned, or to the directors, will be required to accompany their proposals with references as to character and ability; and in all cases where any proposals shall be accepted, and a contract entered into, the Contractor will be required to give bonds for the faithful completion of his contract, according to the terms agreed on.

WM. P. PREBLE,
President Atlantic and St. Lawrence Railroad.
A. C. MORTON, Chief Engineer.
Portland, October 7, 1846. 2t42

TO IRONMASTERS.—THE UNDERSIGNed is now prepared to sell or lease the valuable seat for Iron works, known as the "Horse Shoe Bend" of the Merrimac River, together with several hundred acres of Iron Ore of a superior quality, in the immediate vicinity. The Ore lies in inexhaustible beds on each side of the River, (based some on sandstone and some on limestone,) and is a brown Oxide, the principal beds known as "Pipe Ore."—The beds are from five to thirty feet in thickness, from one to three hundred yards in breadth, and from one quarter to one mile in length. The ore accurs in distinct masses of from one to five hundred cubic feet in size, is connected with Yellow Ochre, and in point of *quantity* and *quality* is believed to be not inferior to any in the state. The distance of the Ore from the Bend is from one-fourth to three miles, and the cost of mining and transporting it to the furnace from the farthest beds, will not exceed sixty or seventy cents per ton.

The lands are thickly timbered with Oak, Hickory, Ash, etc., and when cleared off are fine for agricultural purposes. The distance around the Bend of the River is four miles, and the amount of natural fall in that distance is nine feet, to be made available by cutting a race three hundred yards in length across the Narrows, through which, if wanted, the whole River may be drawn by increasing the size of the race. Its situation is three miles below the Virginia Mines in Franklin Co., Mo., sixteen miles south of "South Point," on the Missouri River, and thirty-two miles west of a good shipping point on the Mississippi, from which latter the Merrimac River is navigable to the Virginia mines, and above for keel boats, batteaux, and other light craft, for more months in the year than the Ohio.

This water power, from its great extent and cheapness over any other now in use, must necessarily draw to it the smelting of those rich Ores of Copper and Lead which recent discoveries have shown to be so abundant in this region.

The wants of the vicinity require the erection of good grist mills; also, a large and profitable business can be done with saw mills, the material for lumber being varied, rich and extensive.

Large forests of Yellow Pine exist on the head of the Merrimac River, which can be easily floated down to the Bend, and from that point the rafts of lumber, can pass out to the Mississippi in any season af the year. The property is offered very low, as will be apparent to any one examining the same. Titles amply guarantied.

4t41] FERNANDO A. EVANS.
Virginia Mines, Franklin Co., Mo., Sept. 1846.

RAILROAD IRON.—1000 TONS HEAVY H Railroad Iron, 60 lbs. per lineal yard, expected to arrive within the next 30 days. Apply to

DAVIS, BROOKS & CO.,
October 9. [10t42] 68 Broad St.

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions. 1y1

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

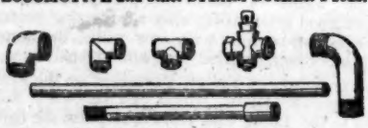
For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now preparing to make Railroad Bars, and are ready to take orders or make contracts for Rails, deliverable after the first of December next. Apply to

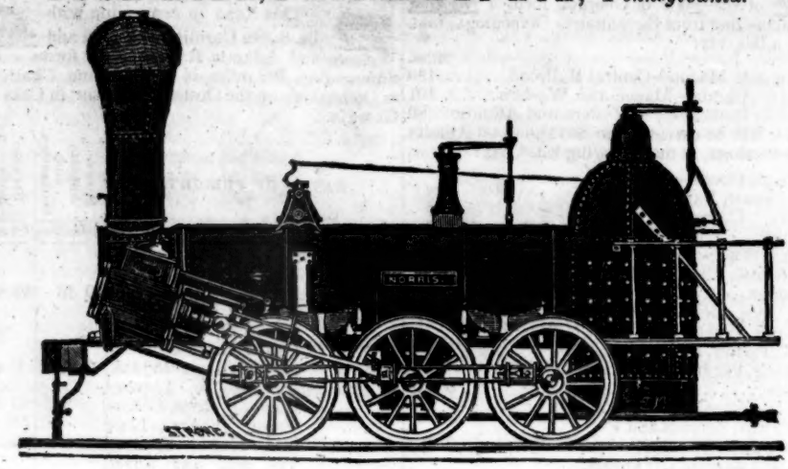
FULLER & BROWN, Agent,

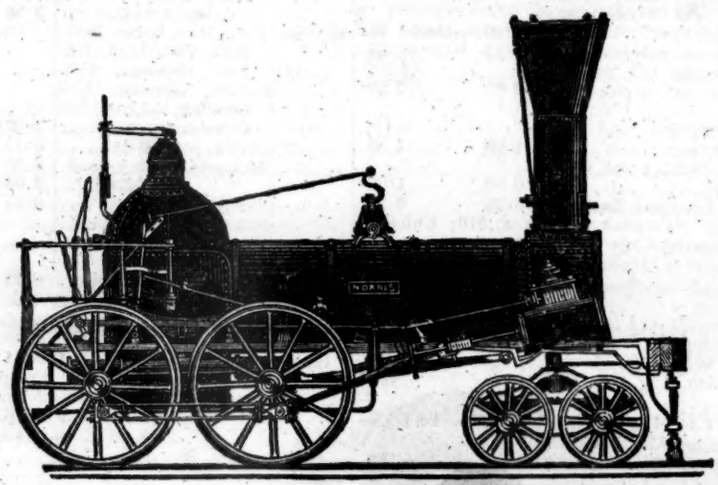
No. 139 Greenwich, corner of Cedar street.

September 18, 1846. 10t39

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
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N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
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25,000 to 30,000 made weekly. 35 1y

Steam Ships.

Comparative view of the relative advantage of constructing steam ships of wood or of iron, in the United States, for ocean navigation.—By Junus Smith, L.L.D.

From the natural position of the United States and the peculiar characteristics of the people, the science of marine architecture, by an inevitable consequence, claims a prominent rank in the pursuits of knowledge; and being so closely interwoven with all the great interests of the country, its cultivation and practical application will continue to be, what it ever has been, a subject of the deepest solicitude. Whether we consider it in relation to the mercantile or the naval marine of the country, it is equally important. The experience of all time is before us, and it remains to be seen how far the genius of the people will discover improvements, and add strength, beauty, velocity and durability to the naval and mercantile force of the country.

The introduction of steam as a propelling power, and its gradual but uninterrupted extension, opens a new field for scientific labor, and stimulate the public mind to bold and untried achievements. That there should arise amid the developments of sanguine minds much fancy and speculation, and theory and costly experiments, upon a theme so new and comprehensive, is just what might be expected. But even the failure of the most flattering anticipations, advances the science itself. Our ideas are corrected, by being driven from untenable positions to others more sound and practical. The best system is ascertained by experiment, and by experiment only. In this respect it bears some analogy to the science of chemistry, which has grown up, step by step, by slow but certain advances, until the elementary principles are more fully developed, and their application to the arts and to manufactures, has conferred incalculable benefits upon the family of man. It is worthy of remark, that the fact of several iron steam ships having been constructed in England, is no ground for concluding, even supposing they succeeded, that it will be equally advantageous to build of iron in the United States. In England iron is cheap, and timber dear. In this country timber is cheap, and iron dear. The first cost of a ship, therefore, depends not upon the material itself, with which it is constructed, but upon the price and facility of obtaining that material at the place of building. In this country, the cost of an iron built ship is about 30 per cent. more than the cost of a wooden built ship of the same dimensions. She ought, therefore, in order to stand upon an equally advantageous footing, in reference to the expense of construction, with a wooden built ship, to be kept in repair in a seaworthy condition, at 30 per cent. less expense, and to maintain a durability of 30 per cent. longer time, than a wooden built ship. A short time has elapsed since the first construction of iron steamers for ocean navigation, and so far, the result of experiment is by no means in favor of their durability, compared with timber built ships.

The Montezuma, a Mexican iron steamer, constructed at Woodside, opposite Liverpool, in England, was sent to New York, together with the Guadaloupe, two years ago, for repairs. The Montezuma had been in service about three years. When in the hydraulic dry dock, I went to examine her condition. I found that between wind and water, there was streak from stem to stern, where corrosion had taken effect; and the whole line was eaten in from one-sixteenth to one-eighth of an inch, resembling a honey comb. The cause of this effect is sufficiently obvious.—The motion of the ship at sea, alternately dipping and immerging, and bringing the salt water under the action of the hot sun, produces a chemical decomposition of the liquor, evaporating the fresh water particles, and concentrating the muriatic acid; and thus forming a powerful solvent, constantly acting upon the iron plates. It may further be observed, that iron has a strong affinity for muriatic acid, which rapidly dissolves thin sheets of iron with which it comes in contact, and is forced by attraction and pressure into the cavities of the iron, expelling the globules of air and assuming their place, and thus breaking the strength of the iron just in proportion as the attraction of aggregation is overcome.

If so great an effect be produced in three years by the action of salt water upon the iron plates, and the remaining plates weakened in manner and measure similar to the dry rot in timber, the understanding can find no great difficulty in measuring with tolerable accuracy the *durability* of the ship. It will be borne in mind that the last stage of consumption is far more rapid than the first, because the disease has penetrated the whole mass, its constitutional vigor is prostrated, and the living thing is already dead.

I am aware that a new mode of galvanizing sheet iron has been brought before the public, and that high expectations of thus rendering it anti-corrosive are indulged. Undoubtedly it will check oxidation upon the body of the plate, but beautiful as the operation is, I fear the grand difficulty will remain unremedied. Wherever a hole is perforated for rivets, or screws, or bolts, there the iron plate is already weakened in exact proportion to the number and size of the holes. The muriatic acid is invited, and it begins to feed upon and oxidate the whole ship. There is a mutual attachment, and they rush into each other's arms through a space not larger than a hair.

Another important result from the experiments that have been made, demands our notice: and that is the possibility of rendering a ship constructed of iron plates, riveted together from two to three hundred feet in length, as the case may be, water proof. The rivets which fasten the iron plates to each other, or to the iron ribs of the ship, are the bearings which are to sustain the warping and straining of the ship at sea. By continual action, being no elastic medium between the joinings of the plates, a gradual, though minute opening, sufficient for the admission of water, is made throughout the ship; and I apprehend this much to be the case if there were no other wearing by the motion of the ship than that upon the rivets. The drawing of the head of a rivet, a screw, or a bolt through a plate, which I have seen, causes a leak not easily detected, and still less easily remedied. This fact, I believe, will be confirmed by the experience of all the iron steamers that have weathered the ocean.

The United States revenue iron cutter, the Legare, which I examined when under repairs, last year in New York, is a very leaky ship. The openings of her plates, at the bottom of her keel, were at least half an inch, and they extended, more or less, from stem to stern, between each set of plates. Workmen were employed in forcing lead into the openings to stop the leaks, a process which, it appeared to me, would ultimately make the leaks worse than before. A ship constructed of timber is caulked between every streak of planking, from the keel to the upper deck. The aggregate of this caulking, thus distributed, constitutes an elastic body of considerable thickness, which yields imperceptibly to the heaving and rolling of the ship, without opening a seam or admitting water. In case of a leak, the ship is easily fresh caulked, and all necessary repairs made with great facility. But you cannot caulk an iron built ship; and from my own observation, I perceive that oxidation of the iron plates, both within and without the ship, commences the moment they come in contact with salt water—and of course the chemical laboratory is at work to effect leakages, and the ultimate consumption of the ship. The repairs of an iron built ship are far more difficult and expensive, and ineffectual, than the repairs of a timber built ship. Few people can work in iron—almost every sailor can work up wood. The idea suggested by an honorable senator, that iron ships require no repairs, and will last almost forever, is entirely fallacious, and founded upon mistaken data, or the want of experience.

The formation of lamina, or thin scale upon sheet iron, when exposed to the action of salt water, is a natural consequence, and becomes visible more particularly after having been fresh painted. The oil of the paint loosens the oxidated scale, so that it peels off, leaving its original place upon the plate untouched by the paint, and ready for the repeated action of the muriatic acid. This is generally visible in a few hours after painting. The abstraction of every scale, it is easy to see, is a diminution of the strength of the ship.

The effect of temperature in the expansion and dilatation of all bodies, is an universal law of nature, and worthy of our consideration in the present inquiry. The same amount of heat has not the same effect on all bodies, inasmuch as liquids expand more than metals, and air form bodies more than either, and under the application of the same quantity of caloric. By the introduction of an intermediate body, that of quicksilver, the only metal that retains a fluid state at the atmospheric temperature, and confining it in a convenient instrument, known as a thermometer, and making that a general standard, we can graduate the relative quantity of caloric in

any body, and of consequence measure the expansion and contraction of metals when exposed to different degrees of heat and cold with sufficient accuracy to enable us to lay hold of important results in reference to iron built ships. By the attraction of aggregation the particles of metals are held together in what is called a solid state, although philosophically speaking, there is no solidity about it. These particles approximate with infinite nearness, and yet never touch one another. The cavities of the metal are filled with innumerable globules of air, and the application of heat expanding the air, drives the metalic particles asunder, in proportion nearly to the quantity of heat applied; so that if the heat be raised to a very high temperature, the hardest steel that was ever manufactured may, under the action of a blow pipe, be reduced to an impalpable powder, lighter than the atmospheric air, and will float in that medium like the small dust of the balance in the beams of a summer's sun.

But our immediate object is with iron only, and to inquire how far the general law of expansion and contraction bears upon the matter in hand. It may however be observed that the expansion of metals is not in exact proportion to the movements of heat applied. The strength of cohesion is weakened by every addition of heat, and, of consequence, a less quantity is necessary to overcome less resistance, and, therefore, the same quantity added to high temperature, would occasion a greater expansion than the same quantity added to a low temperature. In view of this great and fundamental law of nature, I sometimes fancy in the morning that I hold the mercy of Jehovah in my hand, in the form of a razor. The application of heat only would at once reduce it to a liquid or æriform state in the very act of shaving. It would drop like water at my feet, or dance away upon the breeze.

A few years ago, Dr. Ure, the author of a valuable dictionary upon practical chemistry, then in London, sent a message desiring to see me. I found him engaged in experimental philosophy, and perfecting a very ingenious steam valve, which acted altogether upon the principle of expansion and contraction. The expansion of the metalic arm, connected with the valve by the heat of the boiler opened the valve in proportion to the degree of heat, and the refrigeration of the heat again closed it, so that the quantity of steam allowed to escape the safety valve depended entirely upon the temperature of the heat. I have no means at hand of ascertaining exactly what would be the expansion of an iron built ship, 300 feet long, for the addition of every 20 degrees of heat, nor do I deem it necessary in the present inquiry; seeing the contraction under an equal degree of cold, is equal to the expansion under a similar degree of heat, we can easily perceive that every particle of matter in an iron built ship is in ceaseless motion. The ship is all alive, a sea serpent, a mighty snake, expanding and compressing its elastic folds at the bidding of an unconquerable and ever acting agent.

Iron Steam Ships of War.—On this point we have no experience. The merchant marine affords but limited and unsatisfactory results. The iron steam ships of war recently constructed in Great Britain, have not had time to demonstrate their properties, and present us with experimental facts. We are thrown, therefore, upon the resources of the mind, and to the necessity of feeling our way to the most important purposes to which marine architecture can be directed.

The objections already suggested in regard to the *cost, durability, water proof, and expense of repairs* of the mercantile iron steam ship marine, are common to all iron built ships. But with respect to ships of war, there are other objections arising from the peculiar nature of their employment. A shot will penetrate the side of an iron built ship as well as of one built of wood. In that event, the first thing that occurs to the mind is the difficulty of stopping the hole. A wooden plug is effectual in stopping a hole made by a shot penetrating the side of a wooden built ship; but in consequence of the shagged nature of an orifice made through an iron plate, it is quite impossible to exclude the water by a wooden plug. The opening may be partially stopped, but in action no time can be allowed to file away the indentations of the orifice and fit it to receive a plug, and a number of such openings would still admit sufficient water to flood and endanger the ship.

Whether the fragments of an iron sheet, carried into the ship by the force of the ball, would be more destructive than the splinters of a wooden plank, is a question which cannot be determined by any evidence of which I am aware; but it seems reasonable to suppose that the difference would be just that observable between an iron and a wooden ball. The iron fragments detached from a plate would be nothing less than a volley of shot sweeping through the ship, and doing more execution upon the crew than the shot itself.

Anything like forcing in a considerable portion of the side of an iron built ship would, I apprehend, be certain destruction, as no adequate means of repair could be had at sea. The ordinary means of repairing a wooden built ship under such circumstances, would utterly fail, and she must be left to the mighty ingushing of waters that would soon engulph her. In the present state of marine architectural science, it would seem, upon this brief view of the subject, that the risk is too imminent, the expense too large, the durability of the ship too uncertain, and the advantages too problematical, to justify a departure from the established mode of constructing steam ships of war in the United States.

Since the foregoing remarks were written, the steamer Britannia has brought to our aid and in confirmation of the conclusion to which we had come, most important information, under the head of Portsmouth, August 14th.

"Some remarkable results have been produced by the experimental shot practice from the Excellent on the iron steamer Ruby, and it is expected the admiralty will in consequence stop the building of iron and other vessels for the present. The shots which hit the Ruby, not only penetrated the side first struck, but in some instances passed through the other side, carrying with it whole plates of iron. In action, this would risk the total loss of the vessel, for on heeling over to leeward, such a body of water must rush in, that nothing could prevent her sinking with all on board.

"A representatation of this important circumstance, arising from the recent trials, has been made to the admiralty; and should further experimental firing prove that serious risk will be occasioned to iron vessels of war when exposed to the chance of being struck by heavy shot, it is doubtful if the board will not abolish them as men of war."

From the fact that the result of these experiments were reported to the admiralty, we may infer that they were made by its orders; and from the plain, straightforward details presented to the public, there does not appear any ground to doubt their correctness. If they do not go far enough entirely to settle the question, they do go far enough to settle the impolicy of building iron steam ships of war, with a weight of evidence so preponderating against their utility.

Little Miami Railroad.

The increase of business upon the Little Miami railroad is extraordinary. Since the opening of the branch to Springfield, the engineer, Mr. Clement, assures the editor of the Springfield Republic, that, if it continues to increase as it has already done, he will be obliged to devote a train especially for that town, during the business season. As it is, at this time, it is difficult to keep the storehouse clear from the accumulating merchandize conveyed over that branch. This is certainly very cheering to the proprietors of the road, and we are happy to learn of the excellent success they are meeting in this enterprize.

The Cincinnati Gazette devotes a long article to the "Little Miami road," giving an extended account of its business and prospects, from which we make the following extracts:—

Every day, says the Gazette, is attesting more and more strongly, the wisdom of those minds who projected this work, and the good service rendered the state by the hands that constructed it. With the Miami canal opening the country north of us to this city, and the Whitewater branch leading to and from the rich agricultural lands and fine manufacturing localities of south-eastern Indiana, the Little Miami railroad was the only present avenue wanted to complete the connection between the producing region north of the Ohio river and its natural exchanging and shipping point—Cincinnati. On the south side of the river, however, a great deal is to be done, before any such connection can be established there; and yet Cincinnati is just as much the *natural factor* of all the country bounded by the Kentucky river and the highlands of Montgomery, Lewis and Fleming counties, as of the region north of the Ohio which is traversed by the railroad and canals (not to speak of numerous turnpikes,) to which we have referred. Our friends in central-northern Kentucky, we think, are permitting "golden opportunities" to escape them, by the tardiness with which they pro-

secute works of public improvement. In slackwatering the Kentucky river, they did a wise thing; but in failing to render the Licking similarly navigable, especially after expending a considerable sum of money in commencing the work, a very foolish one.—The extension of slackwater works on the Kentucky, and the completion of the Licking improvement as at first designed, *with a good railroad opening the garden-spots of Clark and Fayette directly to Cincinnati*, the productive and manufacturing capacity of central Kentucky would receive an impulse that would soon create a state of prosperity there, such as is not now dreamed of.

We have been much interested in comparing receipts of two leading articles of produce, and also receipts of money for freight and passengers, during two corresponding periods last fall and this, by the Little Miami railroad.

	Produce.	Flour.	Whiskey.
1846	month of September,	6,100 brls.	2,560 brls.
1845	do do	3,726 "	1,767 "
	Increase,	2,374 brls.	793 brls.

	Revenue.	Passengers.	Freight.	Both.
1846	September,	$5,966 17	$5,388 37	$11,354 54
1845	do	4,253 21	2,397 67	6,658 88
	Increase,	$1,712 96	$2,990 70	$4,695 66

September '45 the road was open to Xenia—September '46 to Springfield, 19 miles farther. The following statement compares the receipt for freight and passengers the *first full month* after opening the road through to Springfield, with the revenue from the same sources for the *last full month* it was open only to Xenia.

	Revenue.	Passengers.	Freight.	Both.
1846	September,	$5,966 17	$5,388 37	$11,354 54
1846	July,	5,624 79	2,983 55	8,608 34
	Increase,	341 38	2,404 82	2,746 20

The increased receipts from passengers, owing to the extension of the road, are small, but all that was anticipated. There was no large thoroughfare to divert passengers from, but only a new district of country to open to travel by railroad, and that one which had previously given its travel to the Little Miami road from Xenia down. The increased receipts from freights, however, are large, (about 80 per cent.) and speak well for the productive industry and manufacturing enterprize of Clark county. The receipts for freight during the month of September this year, as compared with the receipts during the same month last year, show an increase of *one hundred and twenty-five* per cent!

Fitchburg Road.

The Boston Times says that a large number of the stockholders of this road met at the Tremont Temple, to see whether the corporation would assist the Rutland railroad company in the construction of their road. This meeting, says the Traveller, was called at the request of a committee appointed at a former meeting of the stockholders, and to whom was referred a letter from Judge Fellett, president of the Rutland railroad, in reply to an inquiry from some stockholders in the Fitchburg railroad, as to what obstacles existed to the building of the Rutland road. The letter of Judge Follett goes at length into the history of the Rutland road. He states that the want of subscription among the capitalists and business men of Boston has been the chief obstacles with which they had to contend. Mr. Nathan Rice addressed the meeting at considerable length in favor of the Rutland route. Mr. Wheildon, of Charlestown offered some resolutions in favor of the central route, and Mr. G. W. Warren, of Charlestown, also offered some resolutions that the Fitchburg company would treat both railroads impartially.

The Boston Courier gives the following account of this meeting—which seems to have been characterized by considerable feeling. The Courier says:

The meeting was called to consider a proposition for aiding and encouraging the lake Champlain and Connecticut river railroad—Rutland route.

There was great animation and some very tart speeches on the occasion. Mr. Nathan Rice spoke over two hours in the forenoon, giving a history of the connection which was brought about last year with the Central railroad, (Montpelier route) and complaining of the measures which were taken to that end.

There was also quite an amusing discussion between the rival engineers, Messrs. Gilbert of the Rutland, and Felton of the Montpelier routes, respecting the cost and labor of making the two proposed roads.

Mr. Hoar, of Concord, replied to Mr. Rice in a speech full of sarcasm, and not a little personal in its tenor.

In the afternoon, a committee of seven reported resolutions of sympathy for the Rutland road, and pledged the Fitchburg corporation to receive the business of the Rutland road when completed, on as favorable terms as those granted to any other company. This report was accepted unanimously.

Mr. William F. Weld then moved that the same committee be requested to solicit subscriptions in aid of the Rutland road to the extent of $240,000. On this motion there was considerable discussion, and it was carried by hand vote by a large majority. But Mr. Belknap, of Windsor, Vt., doubted the decision of the chair, declaring the motion carried, and called for and insisted upon a stock vote.

A ballot was accordingly taken, 5,120 shares being represented, which resulted as follows:

In favor of the motion, - -	1,553
Against it, - - - -	3,567

So the motion was rejected.

Several gentlemen addressed the meeting, and one from Vermont stated, after the ballot was declared, that this was the last time any attempt would be made to obtain aid from the citizens of Boston, towards bringing the business of western Vermont in that direction. He stated that there was another route which would probably now be tried, and he hoped, with success. He probably alluded to a conjunction with the Western railroad, via North Adams and Pittsfield.

The meeting then adjourned.

The Frst American Ocean Steam Ship.

The New York ocean steam ship now building at Westervelt and Mackay's ship yard, is intended as the first in the line of ocean steam ships to run between New York and Bremen via Cowes, in the employment of the post office department. She is called the Washington, is of 1750 tons, custom house measurement, which is equal to about 2350 tons carpenter measurement. Her frame is well seasoned white oak; her timbers are pieces 22 feet long, sided 12 inches, moulded 20 inches, and very close together. All the crooks are such as grew with the timber, and none of it is cut across the grain. Her keel and kelson are of great solidity, forming a mass seven feet in thickness, and bolted throughout with heavy copper bolts. There are four kelsons to form the bed of the engine, running fore and aft, each 36 inches at the bottom, and 26 inches above, and 4 feet 3 inches high. There are, in order the more to strengthen her, bilge kelsons running fore and aft, 16 inches square. The length of the keel is 220 feet—of the upper deck, 245; the breadth of beam is 39 feet, and depth of the hold, 31½ feet. She is to be planked up inside and out with 6-inch white oak plank, except across the timber heads, where the plank is to be 8 inches; and what seems to us indispensable to the safety of all sea going steam ships, she is to have a complete flush deck from stem to stern, so that if a heavy sea be shipped, it must run off, as there are no openings into which it can pour and thus endanger the safety of the vessel.

The Washington is to be equipped with two marine engines, now constructing by Stillman, Allen & Co., of 72-inch cylinder and 10 feet stroke; the wheels are to have 40 feet diameter, and it is intended that they shall, when pushed, make 18 revolutions. Her cylinders, furnishing 20 inches of steam will be equal to 2,000 horse power.

She will have an unbroken cabin saloon of 80 feet, which is to be furnished in that most tasteful and brightest of all styles, varnished white and gold. The main cabin will furnish 200 berths—not settees, nor cots, nor occasional substitutes, but ample berths in convenient and roomy state rooms. She will have a second class cabin forward, with 100 berths—no less comfortable, though less luxuriously furnished, than the main one.

Her whole cost afloat and ready to receive her mails and passengers, will not reach $250,000. The Mississippi and Missouri war steamers, (the one built in Philadelphia, the other here, by the government,) each cost we believe, close upon $700,000, and they were not so large as the Washington, and by no means we suspect so strong.

The government, it is known, have made a contract with Mr. E. Mills for four ocean steam ships, in which to transport the mails to Bremen, touching, going and coming, at Cowes. The contract is to last for five years, and the price is *one hundred thousand dollars per annum.*

The Washington is the first of the four, and she will be ready to commence her trips in March next. As soon as she is launched, which will probably be early in January, the keel of another ship of like dimensions is to be laid, and the four are to be completed in succession—so that each one may be rendered more perfect by the experience of those that precede her.

Franklin House, Philadelphia.

The undersigned desires again to call the attention of the readers of the Journal and the *railroad interest generally*, to his change of residence, and connection with this popular, and well arranged HOTEL. In presenting his compliments to the readers of the Journal, and his claims upon the railroad interest for a share of patronage in his new pursuit, he is willing to rest his claims upon the merits of the house, as it *now is*, and upon the manner in which it shall be hereafter kept; believing, as he does, that those who give him an opportunity of proving his claims will find them valid and substantial.

D. K. MINOR,

105 *Chestnut street, Philadelphia.*

English Iron Trade.

The iron trade remains in a healthy condition.—The demand continues steady, and prices for railway iron continue to range from £9 15*s.* to £10 per ton. The Shrewsbury and Wolverhampton company ordered 10,000 tons of rails, and 3,600 tons of chairs; while others who wanted to purchase, declined to do so until after the quarterly meeting of iron masters, which was to take place at Birmingham on the commencement of the month; prices were, however, fully sustained, with a tendency to advance; which tendency will be very likely to continue, as there can be no doubt of the rapid construction of the numerous lines of road already chartered—as may be inferred from the progress already made, and making, with those chartered in 1845, if the statement in another column from the English journals is correct.

In the Mining Journal, of 17th October, we find he following quotations and communications:

LONDON, OCTOBER 16, 1846.

	£.	s.	£.	s.	d.
Bar *a* Wales—ton	8	15—	9	0	0
" London	9	15—	10	0	0
Nail rods	0	0—	10	15	0
Hoop (staf.)	11	5—	11	10	0
Sheet	0	0—	13	0	0
Bars	11	0—	11	10	0
Welsh cold blast foundrey pig	0	0—	5	5	0
Scotch pig *b* Clyde	3	10	6	3	11	0
Rails, average	9	15—	10	0	0
Russian, CCND *c*	0	0—	0	0	0
" PSI	0	0—	0	0	0
" Gourieff	0	0—	0	0	0
" Archangel	0	0—	13	10	0
Swedish *d*, on the spot	0	0—	11	10	0
" Steel, fagt	0	0—	16	0	0
" " kegs *e*	13	15—	14	0	0

a, discount 2½ per cent.; *b*, net cash; *c*, discount 2½ per cent.; *d*, ditto; *e*, in kegs ¼ and ⅜ inch.

From our correspondent.

IRON.—Welsh and Staffordshire in good demand. Scotch pig has been sold this week at 67*s.* 6*d.* for mixed nos.; and at 69*s.* for all no. 1, at which rates a considerable business was done, to-day the prices are full 2*s.* per ton higher.

Communicated by Messrs. Whitcomb & Barton.

English bar iron continues steady; a considerable fluctuation has taken place during the last 10 days in Scotch pig iron—sales having been made so low as 68*s.* 6*d.* cash; since which prices have rallied, and we may quote the market firm at 70*s.* for mixed nos., and 72*s.* for all no. 1, cash.

To the Editor of the Mining Journal.

Glasgow Pig Iron Trade.—Sir: There have been considerable fluctuations in prices since our last, at one time sales were effected as low as 68*s.* 6*d.* for mixed nos., and 70*s.* for no. 1, cash in 14 days—now they are being made at from 70*s.* to 71*s.* for mixed nos., and 72*s.* for no. 1. The feeling is improving, and holders have become firmer. The shipments from here, both coastwise and foreign, amounted to about 24,000 tons last month.

DOUGLAS & HILL, Metal Brokers.

Exports of pig iron from Port Dundas, Kirkintilloch, and Clyde, during September last: from Port Dundas and Kirkintilloch, 12,867 tons; from Clyde 11,100 tons—in all, 23,967 tons.

Improvements in the Manufacture of Iron.

We find the following specification, and engravings, of what is termed an improved method of making iron, in the London Mining Journal.

Specification of patent granted to Rees Davies, gentleman, of Ystradgunlais, in the county of Brecon, for improvements in the manufacture of iron.—From Newton's London Journal.

This invention consists in so conducting the process of manufacturing iron, when anthracite, stone coal, or culm is used, that the charge may be caused to enter the blast furnace in an ignited state.

Fig. 1.

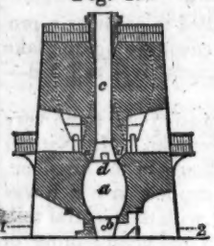

Fig. 3.

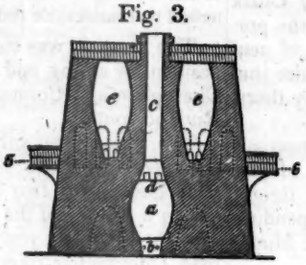

Fig. 2.

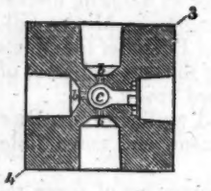

Fig. 4.

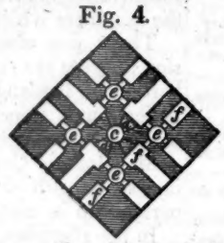

Fig. 1, is a vertical section of a blast furnace, suitably constructed for carrying out this invention; fig. 2, is a horizontal section, taken on the line 1, 2, of fig. 1; fig. 3, is a vertical section of the furnace, taken in the direction of the dotted line 3, 4, (fig. 2); and fig. 4, is a horizontal section, on the line 5, 6, of figs. 1 and 3. *a*, is the part of the furnace in which the blast operates; this part is constructed in a similar manner to the ordinary blast furnaces, from the lower parts up to the boshes, and the blast, (whether hot or cold) is applied in the usual way by the tuyeres *b*, *b*. Above the part *a*, the interior of the furnace is contracted, and forms a chimney *c*, to carry off the gases and products of combustion; the charging of the furnace is not effected through the tunnel head or chimney *c*, but through the passages *d*, *d*, excepting the first charge, which must be made with unignited materials, in the ordinary way. *e*, *e*, are kilns or chambers, into which the charges of iron ore, fuel and flux, are continually introduced and ignited; the upper ends of the chamber are open to receive the successive portions of the charge, and the lower ends communicate with the furnace *a*, by the passages *d*. *f*, *f*, are openings for stirring the charge and regulating the passage of descending materials from the chambers *e*, into the furnace. The blast does not act on the charge contained in the chambers *e*; but the anthracite being kept in a state of partial combustion, by the draft of atmospheric air through it from the passages *d*, there will be a previous ignition of the charge going on in the chambers *e*; this is important—as anthracite, stone coal, or culm, which has been ignited before being brought into contact with a blast of air, works more favorably in the manufacture of iron (either with hot or cold blast) than when thrown in a cold state into the blast furnaces; and the ore, after the above process, is in a more suitable state for introduction into the blast furnace.

The patentee remarks, that although he believes it to be best to use anthracite, stone coal, or culm alone, yet other fuel may be mixed therewith; and that although he has shown the best arrangement of furnace that he is acquainted with, he does not confine himself thereto, so long as the charge can be supplied to a blast furnace in an ignited state.

He claims the manufacture of iron by means of anthracite, stone coal, or culm (whether used alone or mixed with other fuel), which has been, together with the iron stone, or ore, or flux, before its projection into the blast furnace, brought into a state of ignition by a draft of atmospheric air, in chambers so arranged as not to interfere with the blast furnace.

New York and Boston Railroad.

A convention of gentlemen friendly to the immediate establishment of a railroad from Boston to New York city, via Woonsocket, and thence by the most direct and practicable route by land to the latter city, was held at the Western (upper falls) last week. The meeting was called to order, says the Boston Times, of Oct. 28th, by Otis Pettee, Esq., of Newton, and the following officers were selected on the occasion:—

Hon. Luther Metcalf of Medway, president; Rev. Daniel Kimball of Needham, Rufus Ellis, Esq. of Newton, Ralph Huntington, Esq. of Woonsocket, R. I., vice presidents and Joseph W. Plympton of Newton, Walter Janes of Medfield, and Wm. E. Clark of Newton, secretaries.

Resolutions were, introduced, and a report was received from Mr. Stone, engineer, upon the Rhode Island portion of he line, showing the feasibility of the route. It was contended that the people of Norfolk county had claims upon the legislature of Massachusetts for the establishment of a road thro' that region, and complaint was made against the management of one of the existing lines from Boston to New York. A number of spirited speeches were listened to, and a determination was evinced to carry through the project, if the legislature accedes to the views of those interested in the enterprize. The propects of such a route, were represented as being highly promising and lucrative, and the report and resolves were unanimously adopted.

The meeting was very fully attended, and about 300 delegates were present from the towns bordering on the proposed line, in Norfolk county, and from Rhode Island and Connecticut. The "Times" adds, that the proceedings, throughout, were characterized by a most admirable spirit of unanimity and zeal. It is understood that the next meeting of the friends

of this great project, will take place at Fanuiel Hall, Boston, at an early day, when it is believed a large and effective gathering will be present. The country through which the proposed route is intended to pass, is rich in manufactures and agriculture, and the road will prove a very important channel for the trade of that vicinity.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, November 14, 1846.

Steam Ship.

By the Britania we have our files to the 19th October, from which we learn that the railway interest and the iron business are still in a flourishing condition.

Comparative Cost of Canals and Railroads.

We recently published in the Journal—see number 43, October 24th—an able and interesting article on the comparative cost of canals and railroads, by A. WHITNEY, Esq.; and in our introductory remarks we spoke of the writer as the author of the projected *Oregon* railroad. We were in error in thus attributing the authorship, and therefore take this opportunity of placing the matter right, that an innocent party may not be chargeable with sins—if sins they be—of which he is not guilty, and that the real author may have credit for his labors, if they are entitled to credit.

We should have said that it was written by Mr Asa Whitney, of Philadelphia, late of the well known house of BALDWIN & WHITNEY, locomotive engine builders, and formerly one of the canal commissioners of the state of New York; a gentleman who has contributed largely to the improvement of the locomotive engine in this country; and we avail ourselves of this opportunity of again calling attention to the important facts so clearly set forth by the writer.

Inprovement in the Telegraph.

The Albany Evening Journal chronicles a mode lately discovered by Mr. Cornell, for carrying the telegraphic wires across navigable rivers—a question which has given rise to several experiments, none of which as yet, however, have been found practicable. "Mr. Cornell," says the Journal, the "superintendent of the Albany and Buffalo road, has been studying for a year or two, with a view to overcome this serious obstacle to a continuous connection. His reflections have resulted in what he deems a practicable discovery. He tested his project on Tuesday, and it resulted, he assures us, to his entire satisfaction. What the discovery is, he does not choose, at present, to inform the public—except that the connection is secured through a naked wire placed in the water. Those who are aware that water is among the very best conductors of electricity, will question Mr. C's veracity, until they learn more of the details of his discovery. But, of this the public may rest assured—the experiment has been successfully made, and under circumstances which promise permanent utility."

Railroad Iron.

In no branch of business, has greater progress been made within the last four years, than in the manufacture of iron. But in the manufacture of rail iron especially, the progress is extraordinary. In 1844, says the Philadelphia "*Pennsylvanian*" when the first railroad iron was made in this country, it was regarded as an experiment of extremely doubtful success. Now there are at least ten establishments engaged in its manufacture, while a number of others are in progress of construction; and the whole business has been brought to a degree of perfection highly criditable to American skill and enterprise. A late number of the *Miners' Journal*, in an article upon the subject, furnishes the following list of these establishments, their location, and the number of tons they are capable of turning out yearly. Of these, all are in operation, except four or five, which are nearly finished. It will be seen that the whole number are of sufficient capacity to make 119,000 tons of railroad iron per annum, equal to 2,288 tons per week, or 382 tons per day:

Names.	Location.	Tons per ann.
Montour Iron Co.,	Danville, Pa.	9,000
Wyoming,	Wilkesbarre, Pa.	9,000
Trenton,	Trenton, N. J.,	9,000
Mount Savage,	Maryland,	9,000
Providence,	Providence, R. I.,	9,000
Hunt,	Philadelphia, Pa.,	6,000
Great Western, near,	Pittsburgh, Pa.,	6,000
Seibert & Wainright,	Philadelphia, Pa.,	6,000
Grey,	Boston, Mass.,	9,000
Phœnixville,	Phœnixville, Pa.,	9,000
Tremont,	Conn..	6,000
Fall River,	Conn.,	9,000
Moore & Hoven,	Norristown, Pa.,	6,000
Elicott's,	Baltimore, Md.,	6,000
Yarmouth,	Yarmouth, Mass.,	5,000
Lackawana,	Luzerne, Co,,	6,000
	Total, Tons,	119,000

For a mile of railroad with heavy track, continues the *Journal*, 90 tons of iron are required. It will be seen, therefore, that iron enough can now be manufactured in the United States to lay *four miles per day*, or twelve hundred miles per year. In producing this amount of iron, 300,000 tons of iron ore are used; and it is estimated that five tons of coal are required in the manufacture of every ton of railroad iron. This gives an aggregate 595,000 tons of coal used for this purpose, nearly all of which is anthracite. This fact is sufficient to show the important relation which this branch of the iron business holds to the anthracite coal trade of Pennsylvania.

Camden and Amboy Line.

The Philadelphia correspondent of the *Anglo-American* has the following remarks in relation to the conduct of the managers or agents of the Camden and Amboy railroad:—

"There is a species of policy or of management practised upon the public who have to travel to and from New York and Philadelphia, of which the public, are in some measure acquainted, but which does not appear to have made particular impression, and which I confess, I only happened to be struck with from the observation of a fellow traveller who made the remark when we were travelling between these two cities. It is this, that while we are only paying say *a dollar and a-half fare to Albany*, about 150 miles, and *two dollars and a-half to Boston*, more than 200 miles, we are charged by the *cheapest* conveyance, three dollars to Philadelphia, and by the only other alternative four dollars, although the distance in either case is only about 86 miles. Now what can be the cause of this discrepancy in the several rates of charges, and what can be the reason that one of the passages to Philadelphia shall cost 33⅓ per cent. more than the other?"

The writer appears to be unacquainted with the fact that the 'policy' of the line is, to do just what it pleases, and in whatever manner it pleases, without the slightest reference to the comfort or convenience of the passengers who are compelled to travel over the route.

The same writer adds, that "this was not the only circumstance in the conversation with our fellow-passenger. We were in time to start by the Amboy steamer by 5½ o'clock in the morning, at which hour we had understood she was used to proceed on hes destination. We had to keep ourselves warm as well as we could until 6½ in the morning at which time we actually started, and complaining of this to our new acquaintance, he said such was very usual by that route, that the property of the route had fallen in the hands of a *few* who had also the principal influence on the other route, and that they wanted to turn away the passage of travellers to the other way (to the four dollar way): that this route which we were going was, by charter, bound to be kept going, and therefore they could not shut it up, but there was no restraint upon them altering the time of starting, provided they give public notice they were about to do so. That these notices were placed in one or two newspapers where they were not likely to be seen, or might be passed over: thus the *legal* part of the stipulation was fulfilled, altho' the *spirit* might be wanting. That in the case before us they had complied, and therefore he pulled out a previous morning paper and showed it to us. He said he was an old traveller and 'what was every man's business was no man's business,' hence he took no trouble about the matter, except to talk of it as he was now doing. He also said that the Amboy boat started sometimes befor her time, and hence those that came after she had started were advised to go the other route, and hence the present route was gradually getting a bad name for regularity, besides the inconvenience of starting at so inconvenient a time of morning, so that by degrees it would only be a freight route, to which the owners had no objection."

This appears to be the whole truth in a brief space. The *early* line is the "three dollar" line, and a proviso in their charter *requires* the "Camden and Amboy company" to run a line from New York to Philadelphia at this price. They do so; but it is said by some that means are adopted to render *that* route uncomfortable, and it has long since obtained a reputation for being one of the worst managed routes in the country.

The writer concludes as follows:—

"I know not the truth of all these allegations, but they appear to be very plausible. If they are at all true we think there is an opening for a new company who may be contented with a reasonable profit, or at least may seek the public convenience upon fair terms; or the controllers of the present routes may be taught to respect the public opinion thereon, for we are of belief that the owners might make more money by materially reducing their terms, as has been *well proven* by others who have had wisdom or who have been compelled to try the experiment."

There *would* be "an opening for a new company," which (in view of such management as has characterized the career of this route for years,) would long ago have been established, but for the very cogent reason given by this writer, in the early part of this communication, viz: "that the property of the route was in the hands of *a few* who have also the principal influence in the other!" The fact is, they are mainly owned by the *same* proprietors; and so long as they choose to *do* as they now do, so long must the public be annoyed and overcharged. When will the proprietors of the Camden and Amboy railroad remedy these evils?

New Railways in Great Britain.

Herapath says that the following are the amounts authorised in the session of 1846, to be raised for railways, and the number of miles to be constructed:—

	No. of Bills.	Capital £	Loan. £	Length in miles.
England	189	70,234,870	23,612,027	3,230
Scotland,	60	11,749,780	3,903,000	805
Ireland,	51	8,517,900	2,820,558	670
Total,	270	90,502,550	30,345,585	4,705

The estimated average total cost, per mile including capital and loan, would appear to be for England, £29,055; for Scotland, £19,444: and for Ireland, £16,938. It may be interesting to mention, that in the session of 1844, the estimated average cost per mile of the 819 miles of railway then sanctioned, was £19,148; in the session of 1845, 2,860 miles were sanctioned, averaging £20,438 per mile, increase, 6·74 per cent; and in 1846, as above, 4,705 miles, averaging £25,685 per mile, increase in cost, 25·67 per cent. The total length of railway sanctioned during the last three sessions, amounts to 8,364 miles; aggregate amount of capital and loan authorised, was £194,983,767.

Commerce and Resources of the West.

The attentive observer of the passing events of the day, will have noticed the rapid improvements which have been making the past two or three years, and especially the last year, throughout the western country; and the lively interest which has been exhibited by the mercantile community and capitalists generally, in railroad enterprizes in that region of the country. The immense resources of the great west are not yet fully appreciated by the eastern men, who are inclined, generally, to bestow their attention to matters more immediately *at home*, or in the vicinity of their own limits of operation. There is nevertheless, a rapidly growing disposition among our capitalists to avail themselves of a participation in the advantages which *must* accrue, in a short time, from intercourse with the west: a matter which is becoming daily more closely interwoven in all our business affairs, and which eminates from the communication with that country, which is every month advancing with such astonishing rapidity. However great may be the advancement in the prosperity of our *Atlantic* cities, the cities throughout the west are increasing in a far greater ratio—and while prosperity marks the course upon our own borders, the destiny of the "mighty west" is "onward," with far more rapid strides. Her resources are not yet well understood, but the day is fast approaching when all her interests must become most intimately blended with our own.

Mr. Wm. Kenrick of Newton, Mass., has prepared an elaborate series of articles upon this subject, which are now in course of publication, in the Boston Courier; and which will be read with deep interest by all who have the *general* good of the country at heart. We extract below, from the last number of the Courier, the following in relation to the commerce of the lakes, and of the western country. The writer observes that—

The great west is ours, the great Welland ship canal, and the tendency of every great public improvement being to the east continually. The Michigan Central railroad, and the Miami railroads, under New England management, and now also ours, must eventually, do a business very great, and commensurate only with the growth of those vast countries, and all tending to the east, to lake Erie, and thence to lake Ontario, from thence to the two great seaports of New York and of Boston, by canals, or by destined railroads.

The merchandise brought down to Albany from the lakes, come now only by the Erie canal, from Buffalo direct, and by the branch of this same canal, from Oswego, on lake Ontario. The time by canal from Buffalo to Albany, is usually about seven days; and the time from Oswego to Albany, is usually five days. These two cities of the lakes have grown with a growth almost unprecedented. Yet the harbor of Buffalo is very small and contracted, and liable, from its position, to danger from floods and to obstructions from ice in spring, and for a month later than other ports of the lake. These canals being the property of the state, are subject to heavy tolls, over and above the freight and other charges. The central railroads which run parallel with these canals, are under restrictions, which prevent their taking any freight except in winter, and then subject to canal tolls, as tribute to the state—the time during which the canals are closed by winter being usually over four months.

The share of merchandise which Boston receives from the lakes, comes now only, or almost exclusively, by the Western railroad. The Western railroad is now doing a vast business, and twice the amount of flour is said to have come down already, than in the same period of any former year. And new engines are putting upon that route, to meet the overwhelming and immense business of the present autumn and year.

In reference to the business of the different routes, leading to and terminating in Boston, Mr. Kenrick informs us that the amount of *flour* consumed in Massachusetts is very large—the quantities used in the cotton factories, for sizing the cotton warp, etc., being very considerable.

Three or four years since it was ascertained that 10,000 barrels had been thus consumed in a single year, in the factories of Lowell alone. And it was ascertained at the same time, that the total imports of flour into Massachusetts, over and above all our exports, was 700,000 barrels in that year—or about one barrel to each individual inhabitant of our population, all which was left for our own consumption. And the tax or tribute to the state of New York, in *canal tolls* alone, for this quantity, amounting to 35 cents a barrel, (admitting it had all come through this source) would have amounted to $245,000, in tolls alone, over and above the charges of freight on those canals.

The Western railroad, so called, extends from Worcester to Albany, in all 156 miles, and being hewn out, in part, through rocks and over mountainous heights, cost nearly $8,000,000. Yet, under its present management, it is now doing an overwhelming and unrivalled business, and greater far than in any former year, and is yielding a large dividend on the enormous cost if its construction.

The following, in relation to the different routes, connecting New England with the lakes and the regions of the north-west, contains sufficient of interest, to publish entire. Mr. Kenrick concludes as follows:—

The Ogdensburg and Champlain railroad was surveyed in 1840, by order of the legislature of New York—the work being executed by the most experienced engineers, at the expense of $30,000 to the state. The whole distance from Ogdensburg, on the St. Lawrence river, to Plattsburg and Cumberland Point, on lake Champlain, being 120 miles. The crossing of lake Champlain, is from Cumberland Point to Grand isle, a distance of from two to three miles. From Grand isle, the crossing of the lake to the Burlington side, is over a solid sand bar, with water not over two feet deep, which is fordable for cattle, and horses, and carriages, at all times. Lake Champlain has no current; and it is protected on all sides from high winds, and is never obstructed by floods or drifting ice, as is the case in the crossing of all rivers,—such, for instance, as at the crossing of the river at Havre de Grace on the Baltimore railroad, or at the crossing of the Hudson river, at Albany, of the Western railroad.

The grades of the Ogdensburg and Champlain railroad are exceedingly low; it passes for the most part over a champain country, level, or but gently undulating, with no high hills, and no mountains; the highest grade being but 34 feet of elevation to a mile from west to east. From Burlington eastward to Boston, is by the Concord and Lowell, or by the Fitchburg routes. The route from Burlington to Concord, N. H., seems, for the most part, especially formed by nature in the vallies of the rivers—the highest grades being 50 or 52 feet to the mile. From Concord the grades being in the valley of the Merrimac, are very low, and favorable to Lowell; and from Lowell to Boston, the grades are but 10 feet to a mile, except in one single instance, near Lowell.

Let us now compare these grades with those of the Worcester or Western railroad, which is now the only railroad from Boston to Buffalo, and the western lakes direct. On the Worcester railroad, which extends from Boston to Worcester, a distance of 44 miles, the usual grades are 30 feet; but for short distances they sometimes rise to 40 feet of elevation to a mile. The Western railroad extends from Worcester to Albany. From Worcester to Springfield, a distance of 54 miles, the highest grades are 50 feet of elevation to a mile. But from Springfield to Albany, a distance of 102 miles, the grades are exceedingly high and mountainous; the highest grades being 83 feet of elevation to a mile, for about two and a half miles: the next highest grade being 78 feet to a mile, for about 7 miles, from east to west; and the next highest grade is 76 feet to a mile, for about 6 miles, from west to east. Over this section, the train of 60 cars loaded with 480 tons of freight, which is ordinarily drawn by a single engine on the Worcester road to Boston, is here divided into five separate trains, and thus carried through this section by the aid and power of five engines. It seems evident, therefore, that in this western section of 102 miles, the expenses of engines

and of power employed, must be not far from equivalent to 500 miles travel, on all other railroads, and, at least, fully equivalent to the travel of the whole railroad route from Boston through Burlington to Ogdensburg and the St. Lawrence river, in all the expenses and cost of engines, of engineers, and of power.

Lake Ontario is never closed; and the navigation of the St. Lawrence river, from lake Ontario to Ogdensburg, is usually from a month to six weeks longer in each season than the New York canals. Ogdensburg is the lowest point of ship navigation on the St. Lawrence, from lake Ontario. Below, the river is obstructed by rapids.

The Saint Lawrence is the greatest river in the world. From Trois riviere, or Montreal, to Kingston, on the lake above, its Indian name was Iroquois, or Cataraqui. Iroquois was the name of the famous confederacy of the Six Nations—the Mohawks, the Oneidas, the Onondagas, the Cayugas, the Senecas, and the Tuscaroras. Ogdensburg, the nearest of all points to the lakes, is about 350 miles distant from Boston, by the Burlington railroad; or about the same distance from Boston as Buffalo is from Albany. It is nearer to Boston than Oswego, by lake and by river; and nearer than Buffalo by about 200 miles, by the pass of the Welland ship canal, and the free navigation of river and of lake. Ogdensburg is the key, and the nearest point, also, to the trade of all Canada West; for here, and at this place only, can you cross over to Canada West at all seasons—the river being bridged in winter by the ice; while, except only on the shores, the waters of lake Ontario never freeze, by reason of their profound depth, but are open seas continually.

In its position on the river, the great receiver of the waters of all the lakes; as the key and entrance to Canada West and a foreign country, at all seasons and times.—Ogdensburg stands alone—as the point intermediate, and above all, the nearest, most direct and easiest, between those vast countries and lakes, and the city of Boston, on the outer sea.

Rutland Railroad Meeting.

The friends of this railroad, in goodly numbers, met in the Tremont Temple, last evening. Charles W. Cartwright, was chosen president, and Geo. F. Williams, and E. C. Hutchins, secretaries.

The president stated the object of the meeting to be, to endeavor to raise the sum of two hundred thousand dollars amongst the friends of the Rutland railroad in this city, and elsewhere, in order that the building of the road might be commenced. He expressed his favorable opinion of the proposed road, as a connecting link through the lakes with the great west and the Mississippi, and had no doubt that its business would in time equal the present or future business of the Western road.

Mr. B. T. Reed called for information in relation to this road.

Mr. T. P. Chandler made a remark or two as to the facts coming within his personal observation. While travelling in Vermont, he casually came across Mr. Gilbert, the engineer of the road, and accompanied him to the summit of Mount Holly, where it is proposed to cross the mountains. The ascent was very gradual, and the grade, as stated by Mr. Gilbert to him, would not exceed sixty feet; for the remainder of the road not more than forty.

Judge Follett, president of the Rutland road, made a statement of the present condition and future prospects of the road. The length of this road from Burlington to Bellows Falls, where the Cheshire road ends, was 116¾ miles. It is the shortest route from lake Champlain to Boston. The route has been surveyed twice; first by Mr. Felton and afterwards by Mr. Gilbert, now in the employ of the company. Mr. Felton at first estimated the grade at Mount Holly, at 70 feet, but afterwards reduced it to 60. He estimated the entire cost of the road from Bellows Falls to Burlington, at $3,200,000.—Mr. Gilbert estimated its cost at $2,600,000. The difference in their estimates was, that Mr. Felton put the iron at $100 per ton, and estimated as necessary, one thousand freight cars, while Mr. Gilbert put the iron at $80 per ton, and thought that four hundred freight cars would be sufficient. The expense for grading from Ludlow to the summit of Mount Holly, five miles, is estimated at $105,000; the remainder of the route is as level as usual.

This road would open to Boston a region of 25,000 square miles, and a population of more than 100,000 inhabitants; there 14 thriving villages upon the line of the road, abounding in iron, cotton, woollen and marble mills, and also manufactories of nails, glass, starch etc. There are mines of iron ore and marble through the entire line. The business of the road in merchandise had been estimated at 90,000 tons annually, aside from cattle, etc. He stated that Whitehall, which is at the head of the navigation of lake Champlain would be twenty-five miles nearer Boston by this road than New York city.—In relation to the subscription of one million dollars to the stock of this road by western Vermont, he considered it a substantial subscription, and that the assessments would be promptly met as called for. Of the 2,000 shares subscribed for 1,400 were taken by farmers upon the route. A small assessment of $10,000 to pay expenses was promptly met by these stockholders. They were awake to the necessity of finding a market for their products; the Michigan farmer can get his goods to market, a distance of 1,400 miles, cheaper than they; and they were determined not to remain longer in the back ground; if they met with no assistance here, there were others who stood ready to aid them in their work. In relation to their intentions, in case the $200,000 were subscribed here, he stated that they would immediately proceed to put 22 miles of the road from Bellows Falls to Duttonville under contract; and he also thought that it would enable them to extend it as far as Ludlow, at the foot of Mt. Holly. Thirty-five miles west of the mountain would also be put under contract, but he thought that if a liberal disposition towards this road was shown here, only a portion of this 35 miles would be attempted at present.

Mr. Edwards, president of the Cheshire road, made a few remarks in favor of this route. He stated that twenty years ago, more of the products of western Vermont reached Boston than at the present time; the reason was, that the water communication through lake Champlain, and down the Hudson had been improved, and the New York interests were pushing on, and endeavoring to secure the business of this region. In relation to the Cheshire road he stated that everything looked well, and he had no doubt, that even if neither the Central or Rutland roads were built, this road would pay a fair profit. He thought that the road might be opened to Keene, and the cars running by September next. The people of western Vermont have been urged within a short period to abandon their idea of a connection with Boston, and connect themselves with New York: this they will not do, unless forced to by a lack of encouragement here.

Mr. E. H. Derby made a few spirited remarks, in which he adverted to the great benefits that both Boston and western Vermont would derive from this road. He spoke of the fertility of the Green mountains, and stated that it was a fact that fifty per cent. more rain fell there than in this city. Boston was two hundred miles nearer England than New York, and the time would soon come, when by this and other lines, flour. and the other products of the great west would be brought here as cheap as it now is to Now York; and would place Boston where New York now is.

Mr. B. T. Reed remarked that the information was highly satisfactory, and offered to be one of a voluntary committee of twenty to raise the subscription asked. The following fifteen gentlemen then volunteered their services, and they were empowered to increase their number if desirable:—Their names are, B. T. Reed, S. S. Littlehale, Abel Phelps, Thomas Thacher, E. C. Hutchins, Isaac Parker, Samuel Henshaw, Samuel Dana, E. H. Derby, Wm. V. Kent, Nathan Rice, Benj. Seaver, Samuel Raymond, W. G. Billings, and Geo. F. Williams. The meeting then adjourned.

Artesian Well.

We alluded a week or two since, to the attempt which was making at East Boston, to sink an Artesian well. The process was by boring a sufficient depth to obtain a supply of water for the accommodation of the citizens upon the island—the population of which is so rapidly increasing in numbers. The operator has abandoned the common earth auger, and has invented a cast iron *tube*, about 8 inches in diameter, and about 10 feet long. It is armed at the end with two prodigiously strong chisels, and just above them is an ingeniously devised valve.—At the other extremity is a wrought iron handle, fastened to which is a stout, short-linked iron chain to raise it up and down. When in action, it operates upon the principle of a common chopping knife

so familiar in mince pie manipulations. The engine raises it and then lets it fall, like the perpendicular movement of the dasher in the obsolete method of churning butter. As the bits of stone or other materials accumulate every time the massive tube drops, they are forced up into the tube and retained. Finally, when enough has been chopped to fill the cylinder of the drill, the name given it, the engine draws it to the surface to be emptied. The cost of the one Mr. Higgins is laboring with was $600.—The Boston Transcript gives the following account in relation to this invention:

Before resorting to this unique contrivance at all, an ordinary well was dug 140 feet, to a stratum of hard, compact gravel, interspersed with water worn stones of various sizes. On this Mr. Higgins set a cast iron tube of 10 inches diameter; and another on the top of that, secured by water tight joints, and so on, to the very outlet above ground. This long, ponderous cylinder is carefully braced on the outside all the way, to keep it exactly perpendicular, and within it the mighty battering ram is let down and set in motion against the realm of Pluto. As fast as the hole was deepened, the weight of the superincumbent pipe pressed down farther, paring the sides as it ground along. All accumulations from that source, with its own chips, were secured by the valve. After passing through 10 feet of the mixture described, the instrument struck a hard, blue slate stone, through which Mr. Higgins urged his way at the average rate of 6 feet a day for 145 feet. Next he came upon a bed of talc, of a greenish gray color, greasy to the touch, one variety being recognized among tailors under the name of French chalk, and used for marking on cloth the course of the shears. Finally, on Saturday evening last, the cutter had penetrated 8 feet into that stratum, making the entire depth at this date 303 feet. The tube rests on the slate by which it is sustained; and water, soft and agreeable in flavor, rises in it to the height of 200 feet; probably it comes from between the seams and fractures of the rock, since none can possibly be forced in laterally.

Philadelphia and Cleveland Railroad.

We alluded in a late number to the prospects of this road. We find in Hunts' Merchants Magazine for November, an article in relation to this enterprise, in which the writer urges the completion of this route, acknowledges the great advantages of the proposed *Pennylvnnia* route, in counection with the other. He says:—

Philadelphia feels the insufficiency of her present mixed system, and is contemplating a railroad, continuous from that city to Cleveland, on lake Erie, a distance of four hundred and seventy miles, having, it is reported, no grade exceeding forty-five feet per mile. This is about the same distance as from New York to Buffalo; and when that road is made, it will open to Philadelphia directly, a large fertile portion of Ohio, and make connection at the best position that is practicable. with lake Erie. For at least eight months of the year, such a road would command most of the travel, and for five or six months the whole business that would centre on lake Erie at Cleveland. From Cleveland, railroads will eventually be extended to Indiana, Michigan and Illinois, which must produce a great influence on the western trade. With the exception of three or four summer months the lake is liable to be disturbed by severe storms, which will induce great numbers of passengers, and more or less of freight, to take the railroad, even while the lake is open; and, for five months, the storms and ice on the lake will send the whole trade over the railroad.

Progress of Railways in Great Britain.

It has been predicted by many, that the numerous railways, chartered by parliament during the past two or three years, will not soon, if ever, be constructed. If we may judge of the matter by what has been done, and is doing, in Scotland there need be no fear as to the result. It is stated in the London Mining Journal that those chartered by the session of 1845, will be completed in a little more than 12 months, when a man may breakfast in *London* and sup in *Aberdeen*, after "having travelled the immense distance of 500 miles."

London to Aberdeen in one day.—The various Scottish railways which have received the sanction of the legislature, in the session of 1845, will be opened about the same time. Several will be partially opened in the ensuing spring, and all in a little more than 12 months. The opening of the Scottish railways will make a very great and important addition to railway communication of the country. It is a curious fact, that in nearly every instance the railways now constructing on the other side of the Tweed will extend the communication in a northward direction, and may, indeed, be considered so many extensions of the great trunk lines of communication from London to the north of England. The Caledonian line, which will be upwards of 100 miles in length, is in effect a continuance of the Lancaster and Carlisle railway, and which is again a virtual extension of the great North Western.—Where the Caledonian ends at that part of the Edinburgh and Glasgow line which passes along Castlecary, the Scottish Central begins, and extends to Perth, a distance of 46 miles it is joined by the Scottish Midland which proceeds 33 miles in a northern direction. The Scottish Midland will effect a junction with the Aberdeen line at Twikhem; and the Aberdeen line being about 50 miles in length, we shall have an uninterrupted railway communication from Carlisle to Aberdeen, a distance of nearly 200 miles, which, with the great North Western, will make a continuous line of communication all the way from London to Aberdeen. In other words, an early riser will, in a little more than 12 months, be able to start from the great metropolis in the morning, after breakfast, and, having travelled the distance of 500 miles, reach Aberdeen in time for supper.

Miscellaneous Items.

Utica and Syracuse Road.—The Auburn Daily Advertiser states that the stockholders of the Syracuse and Utica railroad have ordered the president to have the track laid with new heavy H rails. Part of it is to be done this fall, and the balance in the course of next season. The travelling public will be glad to hear this determination.

A Change.—The Rochester Democrat informs us that Mr. J. W. Brooks, for three years past the able and efficient superintentendent of the Auburn and Rochester railroad, has resigned his situation, in order to take charge of the newly purchased Central railroad in Michigan. Mr. Wm. Wiley, late book keeper of the company, takes the post vacated by Mr. Brooks; and Mr. Geo. Redfield has been appointed book keeper. Both of these gentlemen have been connected with the railroad for several years, and are well known to our citizens as faithful, capable and gentlemanly officers.

Curious Discovery.—The Richmond Compiler has the following: Not long since we observed a brief notice of a wonderful discovery very lately made by Prof. Schonbein, of Germany. Common cotton is so prepared probably with a fulminating compound of nitrogen, as to be suddenly converted by a spark into a gaseous state, leaving a residue of only a small quantity of carbonaceous matter. Balls and shells are said to have been projected by this prepared cotton, the projectile force of which is said to be many times greater than that of gunpowder. It was said that four ounces blew a thick wall to pieces—an effect which would require, it was calculated, at least as many pounds of gunpowder. It was added that the cotton, though made wet, re-acquires its properties on drying. This is an extraordinary triumph of chemestry: but is not less true than strange. A friend, just from Washington, saw a letter from a highly intelligent American of standing, now in Frankfort, Germany, who had witnessed the experiments, and certified to the truth of the account. He states that one of the German principalities had given an order for 300,000 bales of cotton, to be employed in this novel process of military defence and offence.

The Pathfinder says that the contract for building the New York and New Haven railroad has been taken. The distance to the junction of the Harlem is 63 miles, and the price for building is $2,000,000, or about $31,000 per mile. When this railroad is completed, together with several others that must intersect the Harlem, the stock of the latter will no doubt be a valuable investment. Stocks of every description improve at the close of the week. Efforts are made to raise a new loan on the Morris canal, for the purpose of completing it!

Wabash and Erie Canal.—The Indiana State Sentinel informs us that the tolls on the Indiana, Wabash and Erie canal, so far this year, show a considerable increase over the corresponding months in 1845. At Lafayette, during March, April, May, June and July, 1845, the aggregate tolls amounted to $15,599 63. During the same months of 1846, they are given in the Lafayette Journal at $28,241 80, being an increase over last year of nearly 100 per cent. The tolls this year on the finished portion of the canal it is said will amount to about $100,000.

Ogdensburg Road.—The Boston Traveller says that at a late meeting of the Rutland railroad company, Mr. Derby stated, on the authority of Mr. Hayward, who has just returned from a survey of the line of the Ogdensburg railroad, that the whole line from lake Champlain will not require a higher grade than 26 feet; and that the length of the ferry across lake Champlain will not exceed two miles. The obstacles throughout the entire route are of a trifling character.

Faber's Magnetic Water Gauge.—The Pittsburg Commercial Journal gives the annexed account of this invention:

This is a very ingenious and complete gauge for ascertaining the height of water in steam boilers. The machine is of a small size, and of a simple construction; but acts, as we imagine from the principles on which it works, with unerring certainty.

There is a small circular box, like a surveyor's compass, containing a metallic plate, marked with lines and having a needle, which by revolving, points to the proper mark and figure to indicate the height of the water.

This needle is turned by the action of a magnetic bar, which is inserted on the end of the axis of a wheel, over which there is a moveable chain, with two balls of unequal weights; one of them heavy, the other light and hollow for floating on the surface of the water.

The light ball floating on the surface of the water in the boiler, rises or falls according to the height of the water, and by this action turns the wheel over which the chain passes; this turns the magnetic bar, and the needle traverses in its tight box, according to the impulse of the magnetic bar, and thus indicates at all times, the height of the water in the boiler.

It is the invention of George Faber, of Canton, Ohio, and was patented in 1845.

South Carolina Railroad.—The receipts of this road, from Charleston to Augusta, Ga., from the 1st to the 18th of October, were $40,613; $11,290 more than during the corresponding days of last year.

Railroad Iron.—We learn from the Portland Advertiser, that a public meeting was recently held in that city, to consider the subject of establishing a machine shop and iron works, to be connected with the manufacture of railroad iron. The Advertiser says, "the matter is connected by certain distinct and responsible propositions with the enterprize of Mr. Norris to establish an engine factory here." Subscriptions, amounting to more than one-half the capital required were made at the meeting.

Survey of the Railroad Route, South.—The corps of engineers, consisting of Messrs. McRae, Fleming and Reston, employed by a committee of the citizens of Wilmington to survey the country between this and Manchester, S. C., for the purpose of determining upon the most eligible route for the contemplated railroad, have closed their field labors and returned here, and are now engaged in preparing their plots and estimates.—*Wilm. Chronicle.*

Copper Boats.—We have been informed, says an exchange, of the introduction of a novelty in river and port navigation, which, if it bears out all that is claimed for it, cannot be long before it comes into general use. It is nothing less than a boat of copper, made of four sheets only, stamped to due form by powerful machinery, and riveted together. It is 23 feet long, 5 feet wide, has four times the strength of wooden boats, and requires one-third only the power to propel at the same speed as a wooden boat of the same dimensions; one-third less weight; no caulking. renailing or pointing is required; and when worn out, the metal will sell for three-fourths of the first cost. Cutters, gigs, ship's boats, race boats, and others, from 10 feet to 60 feet may be made in four pieces. Their strength has been tried by dashing them against rocks and running ahead against stone piers; and it appears almost impossible to sink them.

Railroad Travelling.—A friend of ours, says the Portland Advertiser, who has spent the last two years in travelling through Europe, assures us that the idea so generally entertained, of the great superiority of the European over the American railroads, is entirely erroneous, so far as the railroads of New England are concerned. He says the track is in general in no better condition than ours, and the regulations are not near so good. There is much more of confusion and hurly burly at the stations, and the trains are not so exact to the time. Accidents are also more frequent than here. There are three grades of cars in England. The third are mere boxes, without any cover or protection from the weather, and the price in them averages two cents per mile. The second class have a cover, with wooden benches for seats, without stuffing or covers, and are made as uncomfortable as possible, to prevent people from riding in them. The first class cars are fine. They are richly trimmed, cushioned and stuffed, and the average rate of fare in them is about seven cents per mile, or nearly three times as much as it is in New England.

Portsmouth and Concord Railroad.—The Portsmouth Journal announces that a meeting of the stockholders, and citizens of Portsmouth, N. H., was held at the court house, on Monday evening, to take into consideration the present condition of affairs, and devise means for the prosecution of the enterprize. A. W. Haven, Esq., president, gave a history of the proceedings for some months past, and the failure of the subscription expected from the Concord and Nashua railroad corporation. Statements were made, which showed that the road might be safely commenced, when $400,000 are subscribed; and it was deemed advisable to open new books authorizing the directors to commence when that sum, in undoubted subscriptions, is obtained. Alexander Ladd, Esq., who is a liberal subscriber to the road, was desirous of securing $600,000, or else of extending the road for the present to Newmarket, and there await the filling up of the subscription. But the almost unanimous feeling of the meeting being in favor of aiming at once for Concord, books were opened limiting the commencement of the road to the subscription of $400,000, and 550 shares were entered at once, a good portion by men of moderate means. Many of our rich men, whose real interest in the road is greater than any others, were not present, and if they put down according to their means, like those who were present, the stock will be at once taken up.

Northern Railroad in France.—The English journals state that the magnificent railroad recently opened in France, running from Paris to the northern frontier of the kingdom at Lisle and Valenciennes, and at those points uniting with the two Belgian railroads leading to Brussels, has been the means of establishing a more rapid communication, not only with Belgium and Holland, but with England and Germany. Tickets are sold in Paris for the principal towns in Belgium, and by way of the Aix-la-Chapelle and Cologne railroad, and the steamboats on the Rhine, to the railroads of Germany. Two routes are established to England, by means of diligences and express coaches, one from Amiens to Boulogne, and the other from Arras to Calias. The latter makes the passage in 9½ hours, and connects with the steamboats to Dover, which makes the passage across the channel in 1½ hours. Three trains of cars leave Paris for Lisle daily, one at 7 o'clock a.m., at noon, and 7 p.m.,; and for Valenciennes at 8½ a.m., at noon, and 7 p.m. The fare from Paris to Lisle is 28 francs 20 centimes for 1st class passengers; 21½ francs for those of the 2d class; and 15½ francs, 75 centimes, for the 3d class.

Junction of the Atlantic & Pacific Oceans.—The English Journals stated last season, that the departure of M. Klein, on a mission from the French and English company to the Isthmus of Panama, was to effect the presenting to the government of New Grenada the draft of a treaty for the concession and opening of a communication between the two oceans. M. Klein has returned from his mission, and arrived at Bogota with a copy of the treaty, and of the conditions of the contract for the execution of a railroad across the Isthmus of Panama, debated between him and a commissioner appointed *ad hóc* by the president of the republic. This project, duly signed by the commissioner of the government, has been officially communicated to the company. The latter and the republic have now only to regulate certain points, which, from their good understanding, they will speedily arrange.

Western Telegraph Line.—We learn from the Philadelphia Ledger, that the lines of wire between Lancaster and Harrisburg are now so nearly completed that the opening of the whole line, from Philadelphia to the capital of the state, was confidently looked for on Monday morning.

RAILROAD IRON.—100 TONS RAILroad Iron [Bridge pattern] for sale low to close a consignment by

JOHN F. MACKIE,
189 Water street.
November 7th, 1846. 1m45

CLEVELAND, COLUMBUS AND CINcinnati Railroad. In pursuance of a resolution adopted by the Board of Directors, on the 21st October, notice is hereby given, that proposals will be received up to the 1st day of December next, for the Grading, Timbering, Bridges and Culverts on forty miles of the road, commencing at Cleveland. Profiles, Specifications, Terms of Payment, and all other information pertaining to the matter, to be furnished on application at the office of the Company, Merwin Block, Cleveland.

JOHN W. ALLEN, President.
A. G. LAWRENCE, Secretary.
CYRUS WILLIAMS, Engineer.
Cleveland, October 23, 1846. 45•1m

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

TWO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.

REEVES, BUCK & CO,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
79 Water St., New York.

THE SUBSCRIBERS, AGENTS FOR the sale of

Codorus,
Glendon,
Spring Mill and
Valley,
} Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAY'S EQALIZING RAILWAY TRUCK.--THE SUBSCRIber having recently formed a business connection in the City of New York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,
Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
1y19 Sup't Motive Power.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburgh, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited. S. C. FIELD.

Vicksburgh, Miss., March 9th, 1846.

Certificate from Judge Battaile, of Benton, Mississippi.

In October last I purchased one of Rich's Improved Salamander Safes, which was in the fire at the burning of my law office, and several adjoining buildings in this place, on the 17th of November last, at about half-past one o'clock A. M. of that day. The building was entirely consumed; and I take pleasure in stating that my papers in said safe were preserved without injury. A receipt book which was in said safe, had the glue drawn out of its leather back by the heat, and the back broken; but the leaves of the book, and the writing thereon, were entirely uninjured; and some of the writing which was of blue ink, was also left wholly uneffaced and not in the least faded. Said safe was by the fire heated perfectly red hot, and I do not hesitate to say, that said safe is a perfect security against fire. But the safe tumbled over during the fire, and being heated red hot, the outer sheeting of the door became pressed in, and the bolts of the lock bent, so that it could not be unlocked, and I had to have it broken open. JOHN BATTAILE.

Benton, Miss., December 27, 1845.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat. RICHARDS & CRONKHITE.

New York, 21st July, 1845.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards. (Signed,)

WM. BLOODGOOD.

New York, 21st July, 1845.

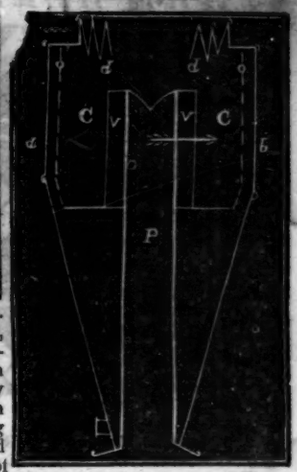
The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from $50 to $500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M Hatch, 120 Meeting street Charleston, S. C. 16 tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, *Agent.*

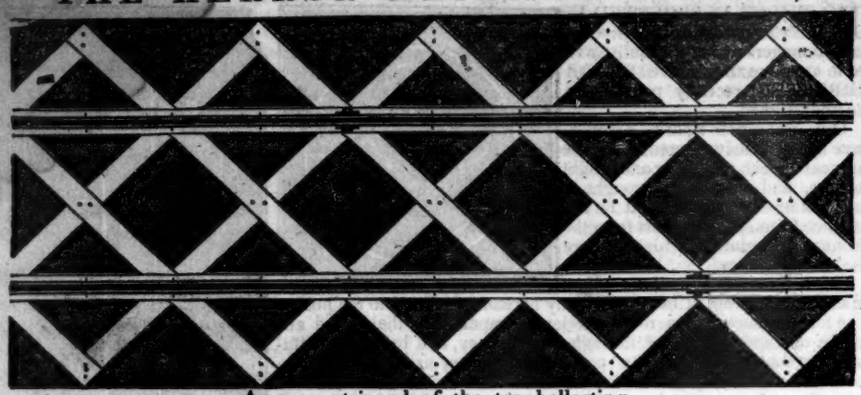
Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45

DAVENPORT & BRIDGES CONTINUE to Manufacture to Order, at their Works, in Cambridgeport, Mass., Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes. 1y1

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

ENGLISH ATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4½	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3½	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2½	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, near Third, below Walnut, Philadelphia.
1y10

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works, Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

RATES OF ADVERTISING.

One page per annum	$125 00
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One column "	8 00
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One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5 00